

CONTINUOUS FREE LAYER SPIN VALVE SENSOR WITH  
PATTERNEDEXCHANGE UNDERLAYER STABILIZATION

ABSTRACT OF THE DISCLOSURE

5 A spin valve device comprises a free layer, a spacer layer, a pinned layer, an antiferromagnetic layer, and a patterned underlayer that includes a magnetic material for providing trackwidth and longitudinal bias. The patterned underlayer can comprise a buffer layer, an antiferromagnetic layer and a ferromagnetic layer.

10 Alternatively, the patterned underlayer can comprises a buffer layer, a chromium layer and a hard biasing, permanent magnetic layer which provides trackwidth and longitudinal bias. A lower conductor can be located on the underlayer.